CLAIMS

1. A device with a hydrophobic and/or lipophobic surface comprising a carpet of nanofibers (20), characterized in that these nanofibers (20) are totally cladded with a hydrophobic and/or lipophobic continuous polymer film, and in that the surface (22) between these nanofibers is covered with a layer of this same polymer.

2. The device according to claim 1, wherein the nanofibers (20) are carbon nanofibers.

3. The device according to claim 1, wherein the polymer film is polysiloxane or a carbofluorinated polymer.

4. A method for making a device with a hydrophobic and/or lipophobic surface which comprises a step for depositing nanofibers on a surface of said device, characterized in that it subsequently includes a step for cladding these nanofibers with a hydrophobic and/or liphobic polymer by a dry physical deposition technique, or by an electrografting technique.

5. The method according to claim 4, wherein the following steps are performed:
    - a step for depositing carbon nanofibers on a surface of a part which successively comprises:
        • depositing a catalyst by a PVD method, a target consisting of catalytic material being

bombarded by a flux of ionized argon, the thereby ejected atoms from the target covering this surface,

• introducing the thereby covered part into a CVD oven *in vacuo* in order to achieve deposition of carbon nanofibers, the catalyst being first of all transformed into drops under the effect of the rise in temperature of the part, a hydrocarbon precursor being then introduced into the chamber, the growth of carbon nanofibers being performed at the location where the catalyst is transformed into drops,

- a step for cladding nanofibers with a hydrophobic polymer by a PECVD technique or an electrografting technique.